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CIRCLE OF THE MECHANIC ARTS.

No. XV.

ARCHITECTURE.—NO. XI.

Egyptian Columns. Hindoo.

Egyptian Style.—In ancient Egypt, a style of building prevailed, more massive and substantial than any which has succeeded it. The elementary features of Egyptian architecture, were chiefly as follows. 1. Their walls were of great thickness, and sloping on the outside. This feature is supposed to have been derived from the mud walls, mounds, and caverns of their ancestors. 2. The roofs and covered ways were flat, or without pediments, and composed of blocks of stone, reaching from one wall or column to another. The principle of the arch, although known to them, was seldom, if ever employed by them. 3. Their columns were numerous, close, short and very large, being sometimes 10 or 12 feet in diameter. They were generally without bases and had a great variety of capitals, from a simple square block, ornamented with hieroglyphics, or faces, to an elaborate composition of palm leaves not unlike the Corinthian capital. 4. They used a sort of concave entablature, or cornice, composed of vertical flutings, or leaves, and a winged globe in the centre. 5. Pyramids, well known for their prodigious size, and obelisks composed of a single stone, often exceeding 70 feet in height, are structures peculiarly Egyptian. 6. Statues of enormous size, sphinxes carved in stone, and sculptures in outline of fabulous deities and animals, with innumerable hieroglyphics, are the decorative objects which belong to this style of architecture.

The architecture of the ancient Hindoos, appears to have been derived from the same original ideas as the Egyptian. The most remarkable relics of this people, are their subterraneous temples, of vast size and elaborate workmanship, carved out of the solid rock, at Elephanta, Ellora, and Salsette.—*Bigelow.*

THE LABORING CLASSES OF EUROPE AND AMERICA.

Extract from an Address before the Albany County Mechanic's Association. (Continued.)

BY E. G. SQUIER.

Is this picture of the condition of the laborers of Europe overdrawn? Is this idle declamation—a phantom conjured from the vasty deep? I could tell you of 400,000 of her Majesty's subjects in one manufacturing district alone, without work and every hour verging nearer starvation, without the remotest prospect of relief! I could point you to Paisley in Scotland, and to the miserable starving population on the eastern coast of Ireland, from whence reports, shocking to the ears of humanity, of the misery and suffering of the wretched inhabitants reach us with the arrival of every steam ship. I could place before you the monstrous revelations that have lately come to light, with regard to the miserable laborers in the coal mines; how all ages and sexes, the mother and daughter, the son and the father, buried in those deep, black dungeons toil together, naked or but partially covered, for 16 hours out of 24, and that too for the paltry sum of one, two or three pence per day. There harnessed, like beasts, to rude carriages, they drag the coal from the various parts of the mine to the shaft; or creeping into the narrow veins pursue their toil, lying upon their backs, or on their hands and knees drag the mineral through passages, in which the wild beast would disdain to burrow. I could lay all the revolting details of this labor before you; could draw you a picture of the utter wretchedness of the factory laborer, when after his long day's toil is over, the pale and emaciated *slave* throws himself, exhausted and spiritless, upon the floor—for home has no charms for him—to await there the call of the task master. But, gentlemen, I dare not repeat to you the dreadful details that have reached us from sources, which for the honor of humanity I could wish were less reliable, and which leave no room to indulge the hope that they are exaggerated. They are too true! This is the physical condition of the laboring classes of England; and now let us inquire what is the position they occupy in the social organization?

It corresponds with their physical condition. The very institutions which have caused their degradation, have also debarred them from a just voice in the government; have assumed the highest legislative authority; and the aristocratic branch having no interests in common with the remaining portions of society, are little disposed to listen to their complaints or redress their grievances. We see on the one hand, an hereditary nobility; the law of primogeniture, by which the eldest son succeeds to the titles and estates of his ancestors; and on the other, the law of entail, by means of which vast estates are locked up and perpetuated in the hands of one individual, from generation to generation and from age to age. Not only this, but the younger sons of the nobility, backed by the influence and power of their relatives, are ever ready to seize on every office, and do in fact fill nearly every post of profit or emolument, not in the state alone, but in the church. Indeed, the various offices of the church are for the most part within the gift of the nobility, and as a consequence are filled by their younger sons. Under these circumstances we need not wonder that horse-racing, and fox-hunting clergymen are so frequent.

Says Alison—The whole number of proprietors who live on the fruits of the soil in Great Britain and Ireland, at this moment, probably do not amount to 300,000, while above 3,000,000 heads of families, and 15,000,000 of persons dependent on their labor, subsist on the wages they receive. To this may be added the startling fact, that the annual income of some noblemen amounts to over $300,000, a sum which would cover the whole possessions of many of our wealthiest men.

In addition to this, a hundred means of taxation have been devised, whereby to wring still more from the hard hand of the laborer. Here is the church, to whose support, for his soul's good, he must pay a tithe of all his earnings. For what? to support the Archbishop of Canterbury, with a revenue ten times greater than that of our President! Here is the government too; that free and liberal government—who crushes the subjects whom she ought to protect, in order to sustain her expensive naval and military establishment, by which she may crush, in their turn, the free Affghan, or carry sword, fire and slaughter into the heart of the Celestial Empire. And what can the laboring population do to relieve their sad condition? No peaceable effort can avail them aught in removing the evils under which they rest. They may petition, but what reception will their petitions meet, what heed will be given to their prayers? They have literally rolled in their petitions to the houses of Parliament, inscribed not with the names of hundreds or of paltry thousands, but of millions, and with what effect? Measures of party and policy must prevail, despite the cry of millions!

Need we wonder then at the outbreaks which have of late become so frequent among the laboring population? Need we wonder that outraged and insulted humanity, though depressed and degraded, should vindicate its rights? Need we wonder that after centuries of oppression and servitude the spirit of man should rise from its thraldom?

England witnessed one revolution, when the stern puritan, Cromwell, assumed the protectorate and the head of the tyrant Charles rolled from the block. But a yet more dreadful retribution is at hand; the mutterings of the storm are heard even here, and it will not be long before the treasured wrongs of ages will burst forth, and the gathered wrath of God and man, like the earthquake and the storm, will shake the proud sea isle to her foundations. Already we see upheaving from its lowest depths that mighty and uncounted mass of men, whose hearts have been ulcerated by long years of servitude; and Heaven only knows how soon may come the day, when rushing forth from den, cavern and hovel, maddened by oppression, and with the memory of a thousand wrongs hot and searing on their souls, the millions of Europe shall bare the red arm of vengeance, and amid fire, strife and blood, bury in the uncoffined grave of their oppressors, alike the cause and memory of their sufferings. The French revolution was but the opening scene of a terrible tragedy not yet complete, of which Europe is to be theatre; its despots, its aristocracy, its wronged people the actors; its audience the world. A tragedy whose lines will be written in blood, whose voice shall be the groan of the dying, the shout of the battle and the cannon's thunder—whose end the triumph of humanity.

I have spoken of the laboring classes of England; I have drawn aside but a portion of the veil: much is yet hidden, and hidden let it remain. It is not meet that our hearts should be sickened by the recital of *all* the horrors of their social and physical condition. What of liberty, says an American writer, has the laborer of England to boast? He has not the liberty to labor, the liberty to eat the bread of toil. The slave who sets his foot upon her soil is free—*to starve!*

Nor is England a solitary example of this degradation of the laboring classes. Throughout all the nations of Europe, with but few exceptions, it still exists in its worst features. It is true Prussia has adopted a wise and liberal policy, and her people are fast rising from their former degraded condition. Switzerland, the land of Tell, amid whose ice-crowned mountains the hunted spirit of freedom found a home—Switzerland too, and the states of Germany stand out in bright relief, oases in the moral and social desert.

KNOWLEDGE FOR THE PEOPLE.

BY JOHN TIMES.

MECHANICS.

Why is the invention of architecture attributed to the Egyptians?

Because the Egyptian capitals are a complication of orders in one mass, which, if divided, would produce numerous hints for new ideas. Thus, from

the *lotus*-leaved capitals, it will be acknowledged that the *Doric* and *Corinthian* orders have been extracted. The *Ionic*, also, is believed to have originated in Egypt; from the remains of the small temple of Isis, in the Island of Philæ. Isis is the Io of the Greeks, from whom the name of Ionic was no doubt derived; and it is very probable, that he who introduced the order gave it that name, as having been taken from the temple of the goddess. Such is the hypothesis of Belzoni, respecting three of the first orders; the remaining two are thus explained:—the *Tuscan*, by inspection, and comparison of its component elements, will be found almost the same as the Doric, and is evidently derived from it; and the *Composite* is formed of the proportions and enrichments of the Corinthian order, and the angular volute of the Ionic.

Why did the Egyptians erect such stupendous monuments as the pyramids?

Because, it is conjected, of the policy of the Egyptian rulers, whose plan to prevent the evils of over-populousness, was, to accustom the lower orders to a spare diet, and employ them in the construction of huge edifices, destined for tombs, or the temples of religion. Hence, the pyramids and excavated temples, which still excite the wonder of the world, and prove what may be effected by the aid of the simplest machinery,—with time, numbers, and perseverance.—*Belzoni.*

Why do the more ancient Egytian monuments exceed the later in design and execution?

Because, among the Egyptians, every thing advanced to a certain point of perfection;—there stopped, never to advance, but rather to recede.—*Belzoni.*

Why are light-houses built of a circular form?

Because, partaking of the properties of an arch, it best enables them to withstand the fury of tempests, from every quarter. The Eddystone light-house, built by Mr. Smeaton, the English engineer is a splendid triumph of this principle.

Why were mirrors first used for reflecting light-houses?

Because of the following trivial circumstance.

At a meeting of a society of mathematicians, at Liverpool, one of the members proposed to lay a wager, that he would read a paragraph of a newspaper, at ten yards distance, with the light of a farthing candle. The wager was laid, and the proposer covered the inside of a wooden dish with pieces of looking-glass, fastened in with glazier's putty,—placed his reflector behind the candle, and won his wager. One of the company marked this experiment with a philosophic eye. This was Capt. Hutchinson, the dock-master, with whom originated the reflecting light-houses, erected at Liverpool, in 1763.

The revolving lights, as at Calais, are an improvement upon this invention. Lieutenant Drummond's ingenious application of ignited lime to the illumination of light-houses, a brilliant discovery of the present day is also worthy of notice.

Why is hemp-rope preferable to iron chains for the scale of a weighing beam?

Because the rope resists a greater weight falling into the scale than is resisted by the chain, and is altogether stronger than the chain; the hemp yields by its elasticity, and continues its resistance through a considerable space and time,—and thus at last overcomes the momentum; while the iron, by not yielding, either requires to be strong enough to stop the mass suddenly, or breaks.

Why are chain cables stronger than those of hemp or rope?

Because the chain, by its weight, hangs as a curve or inverted arch in the water, is supported by it, and becomes almost a straight line from the anchor to the ship; and when a great wave dashes against the ship, the straight rope can only yield by the elasticity of its material, and, comparatively, therefore, a little way; but the bent chain will yield until it be drawn nearly straight, and by this greater latitude of yielding, and consequent length of resistance, it will stand a greater shock.—*Arnott.*

Why is steaming prejudicial to timber?

Because the heat and moisture together, always weaken that constituent principle of the timber, upon which its strength and durability in a great measure depend.

Why is steaming indispensible to ship-building?

Because the planks cannot be otherwise curved or twisted, as in the bends of the hull of the vessel.

To give an idea of the enormous quantity of timber necessary to construct a ship of war, we may observe, that 2,000 tons, or 3,000 loads, are computed to be required for a seventy-four. Now, reckening fifty oaks to the acre, of 100 years standing, and the quantity in each tree at a load and a half; it would require forty acres of oak-forest to build one seventy-four; and the quantity increases in a great ratio, for the largest class of line-of-battle-ships. A first rate man-of-war requires about 60,000 cubic feet of timber, and uses 180,000 pounds of rough hemp, in the cordage and sails for it. The average duration of the vast machines, when employed, is computed to be 14 years. It is supposed, that all the oaks now in Scotland, would not build two ships of the line. In Sweden, all the oak belongs to the king, or the proprietors of estates can only dispose of them to government, so that, when not wanted for the navy, it is often left to decay, and indeed, is generally much neglected.

Why is teak wood superior to oak?

Because it is stronger and more buoyant. Its durability is more decided; and, unlike the oak, it may be put in use almost green from the forest, without danger of wet or dry rot. The oak contains an acid which corrodes and destroys iron; the teak, on the contrary, possesses an essential oil which preserves iron.

Why are beech and elm good timber for the lower keel of ships, and the piles of bridges and harbor?

Because both, when under water, are extremely durable; though neither stand the effects of the atmosphere.

Why is fir preferable to oak for common building?

Because it is lighter, far more elastic, more easily worked, straighter, and of much greater length. The best that comes in the form of deals, is from Christiana and Frederickstadt, chiefly on account of the vast superiority of the saw-mills there.

Why was chestnut used in ancient roofs?

Because of its lightness and durability. The largest roof of the ancient construction is that of Westminster Hall, which is of chestnut. The support of every piece of timber is apparent; and the only strain that appears directly across the timber is on the board and rafters between the great trusses; and it does not appear to be in the least decayed, although constructed four hundred and fifty years since.

REPORT OF THE COMMISSIONER OF PATENTS.

Silk Cocoons.—Notwithstanding the disappointment of many who, since the year 1839, engaged in the culture of the *morus multicaulis* and other varieties of the mulbury, and the raising of silk-worm, there has been on the whole, an increase in the attention devoted to this branch of industry. This may be, in part, attributed to the ease of cultivation, both as to time and labor required and in no small degree, also, to the fact that, in twelve of the states, a special bounty is paid for the production of cocoons, or of the raw silk. Several of these promise much hereafter in this product, if a reliance can be placed on the estimates given in the various journals more particularly devoted to the record of the production of silk. There seems at least, no ground for abandoning the enterprise, so successfully begun, of aiming to supply our home consumption of this important article of our imports. In Massachusetts, Connecticut, New York, Pennsylvania, Delaware, Tennessee, and Ohio, there has been quite an increase above the amount of 1839. The quantity of raw silk manufactured in this country, in 1841, is estimated at more than 30,000 pounds. The machinery possessed for reeling, spinning, and weaving silk, in the production of ribbons, vestings, damask, &c., admit of its being carried to great perfection, as may be seen by the beautiful specimens of various kinds deposited in the national gallery at the patent office. The amount of silk stuffs brought into this country in some single years, from foreign countries, is estimated at more in value than $20,000,000. The silk manufactured in France in 1840 amounted to $25,000,000; that of Prussia to more than $4,500,000. Should one person in a hundred of the population of the United States produce annually 100 pounds of silk, the quantity would be nearly 18,000,000 pounds, which at $5 per pound (and much of it might command a higher price,) would amount to nearly $90,000,000—nearly $30,000,000 above our whole cotton export, nine times the value of our tobacco exports, and nearly five or six times the average value of our imports of silk. That such a productiveness is not incredible, as at first sight it may seem, may be evident from the fact, that the Lombard Venetian kingdom, of a little more than 4,000,000 of population, exported in one year 6,132,950 pounds of raw silk; which is a larger estimate, by at least one-half, for each producer, than the supposition just made as to our own country. Another fact, too, shows both the feasibility and the importance of the cultivation of this product. The climate of our country, from its southern border even up to 44 degrees of north latitude, is suited to the culture of silk. It needs only a rational and unflinching devotion to this object, to place our country soon among the greatest silk-producing countries of the world.

Sugar.—The progress of the sugar manufacture and the gain upon our imports has been rapid. In 1830 the import of sugars was 195,231,273 pounds at an expense of more than $6,000,000. A portion of this was undoubtedly exported, but most of it remained for home consumption. More than 30,006,000 pounds of sugar, also, from the maple and the beet root were produced in 1841, in the northern, middle, and western states; and, should the production of cornstalk sugar succeed, as it now promises to do, this article must contribute greatly to lessen the amount of imported sugars. Indeed, such has been the manufacture of the sugar from the cane for the last five years, that were it to advance in the same ratio for the five to come, it would be unnecessary to import any more sugar for our home consumption.

Wine.—North Carolina, Pennsylvania, Virginia, Ohio, and Indiana, rank highest in their order, in the production of wine. In Maryland, Georgia, Louisania, Maine and Kentucky, some thousands of gallons are likewise produced. Two acres in Pennsylvania, cultivated by some Germans, have the past autumn yielded 1,500 gallons of the pure juice of the grape, and paid a nett profit of more than $1,000. Still, the quantity produced is small. The cultivation of both the native and foreign grape, as a fruit for the table, seems to be an object of increasing interest in particular sections of our country; but any very decided advances in this product are scarcely to be expected.

Corn Oil is produced from meal by fermentation, with the aid of barley malt. It has been produced and used for some time past in certain distilleries, by skimming off the oil as it rises on the meal in fermentation in the mash tub. It has, however, lately become the subject of particular attention, as an article of manufacture, and with success. The meal, after it has been used for the production of this oil, it is said, will make better and harder pork, when fed out to swine, than before. The oil is of a good quality, of a yellowish color, and burns well. Further clarification, it is probable, may render it as colorless as the best sperm oil. Whether or not this may be the case, the ease with which it is made offers strong inducements to engage in the production of this article.

But a more important object in the production of Indian corn is doubtless the manufacture of sugar from the stalk. In this point of view, it possesses some very decided advantages over the cane. By plucking off the ears of corn from the stalk as they begin to form, the saccharine matter which generally goes to the production of the ear,

is retained in the stalk; so that the quantity it yields is thus greatly increased. One thousand pounds of sugar, it is believed can be produced from an acre of corn.

Should the manufacture of sugar from the corn-stalk prove as successful as it now promises, enough might soon be produced to supply our entire home consumption, towards which, as has been mentioned, at least 120,000,000 pounds of foreign sugar are annually imported, and a surplus might be had for exportation. In Europe, already more than 150,000,000 pounds of sugar are annually manufactured from the beet, which possesses but one third the saccharine matter that the corn-stalk does; and there are not less than 600 beet sugar manufactories in Frnnce alone. By this manufacture of sugar at the west, the whole amount of freight and cost of transportation on imported sugar might also be saved—a sum nearly equal, it is probable, to the first cost of the article at the seaport; so that the price of sugar is at least doubled, if not almost trebled, to the consumer at a distance, when so imported. Not less than 6, 000,000 pounds of sugar, it is said, are annually imported, for home consumption, in the single city of Cincinnati.

Oil and Stearine from Lard and the Castor Bean, &c.—These two are articles which will hereafter attract much attention in many parts of our country. The use of lard instead of oil, for lamps of a peculiar construction, has been heretofore attempted with good success, as an article of economy. It has even been adopted in the light-houses in Canada, on the lakes, and is said to burn longer, and free from smoke, while the cost of the article is stated to be but about one-third the cost of sperm oil. But it has now been discovered that oil equal to sperm can be easily extracted from lard, at great advantage, and that it is superior to lard for burning, without the necessity of a copper-tubed lamp. Eight pounds of lard equal in weight one gallon of sperm oil. The whole of this is converted into oil and stearine, an article of which candles that are a good substitue for spermaceti can be made. Allowing then, for the value of the stearine above the oil, and it may safely be calculated, that when lard is six cents per pound as it is now (1841) but four cents at the west, a gallon of oil can be afforded there for fifty cents; since the candles from the stearine will sell for from twenty-five to thirty cents per pound.

Stearine for this purpose has also recently been obtained from castor oil, the product of the *palma christi*, or castor bean, a plant successfully cultivated in portions of our country.—*Report*, 1842.

ECONOMICAL USES OF THE WILLOW.

Of all the plants which grow there is perhaps not one applied to a greater variety of uses than the *Willow*. Others may be more important, but for diversity of application the willow is really remarkable.

The term willow is applied to two plants so apparently dissimilar, that it may not be known to every one that they are species of one genus. The willow-tree, and the willow or osiers used in basket-making, are the two kinds to which we here allude; and indeed we can hardly speak thus of *two* kinds, for the genus has been so divided and subdivided, that it contains, according to Smith's classification, about a hundred and forty species; according to Schleicher, two hundred and fifty; according to Koch, two hundred and fifty four. The willows, are chiefly natives of the colder parts of the temperate regions of the nothern hemisphere, and of a cold moist soil. A few species have been met with in Armenia, in China and Japan, Northern India, in North Africa, in Central America, and in North America, but the temperate countries of Europe are those in which the willow is most extensively found.

The "white willow," or timber-willow, the ornamental or "weeping willow," and the osier-willow, may be taken as three types towards which all the species more or less approximate, and these grow to various heights, from one hundred feet down to that of a mere shrub. The nature of the uses to which they are applied by man, depends partly on this broad classification, and partly on properties which the varieties enjoy in common; the many important uses rendered to man by the different species of willow and osier, serve to rank them among the first in our list of economical plants.

In a state of nature the willow furnishes food by its leaves to the larvæ of moths, gnats, and certain other insects; and, by its flowers, to the honey bee. The leaves and young shoots are wholesome and nourishing to cattle; and in some northern countries they are collected green, and then dried and stacked for that purpose. In France the leaves and young shoots of one species, whether in the green or dried state, are considered the very best food for cows and goats; and horses, in some places, are fed entirely on them from the end of August till November; the horses so fed are said to be able to travel twenty leagues a day without fatigue. In Sweden, Norway, and Lapland, the inner bark is kiln-dried and ground, for the purpose of mixing with oatmeal in years of scarcity. In a rude state of civilization the twigs of the willow were used in constructing houses, household utensils, panniers, harness, boats, fishing-tackle, &c. The twigs are still very generally applied in Russia and Sweden to all these uses; and Dr. Walker, who wrote an essay on willows about forty years ago, states that he has ridden in the Hebrides, with a bridle made of twisted willow-twigs, and lain all night at anchor with a cable made of the same material.

The bark is usefully applied in many ways. The peasants of Russia and of the adjacent cold countries weave the bark of the young shoots for the upper parts of their shoes, the outer bark serving for the soles; and they also make of it, tied together with strips of the inner bark, baskets and boxes for domestic purposes. The outer bark of old trees supplies them with a substitute for tiles as a covering for their cottages. In Tartary the bark is steeped in water, and the fibre, when separated, spun into threads from which cloth is woven. Both the bark and the leaves of the willow are astringent, and the former is sometimes employed in tanning; the bark of one species is also used for dyeing black, in some of the cold countries of Europe. The bark of the willow has been brought into requisition as a medical agent, by yielding a substance called *salicine*.

As a variety of timber, the wood of the larger species of willow presents many useful qualities. In Pliny's time willow wood was in request for the fabrication of shields, on account of its lightness; and in the present day it is for the same reason prefered for making cutting boards for the use of tailors and shoemakers. It is used for whetting the fine steel instruments of cork-cutters and other mechanics; it is demanded for turnery, for shoemakers' lasts, for imitating ebony when dyed black, and for many minor purposes. The wood of the larger trees is sawn into boards for flooring, and sometimes for rafters; in which situation, when kept dry and well ventilated, it has been known to last upwards of a century. The boards are well adapted for lining waggons and carts, particularly such as are intended for coals or stone, as this wood from its softness, is not liable to splinter from the blow of any hard angular material. From its property of durability in water, willow-wood is valuable for the paddle-boards of steam vessels, and for water-wheels. The red-wood willow is much used in Scotland for building small ships, and especially fast-sailing sloops of-war, by reason of its lightness, pliancy, elasticity, and toughness. In England, before the introduction of iron hoops for cart wheels, the external rim or felloe, was made of thin willow; and when new, the cart or wain was drawn along a road covered with hard small gravel (and in preference, gravel somewhat angular;) by which means the felloe shod itself with stone, and thus became capable of enduring the friction of the road for a long time, the toughness of the willow retaining the gravel till the stone was worn away."

(To be Continued.)

NOBILITY OF BLOOD.—Crants, in his Saxon History, tells us of an Earl of Alsatia, surnamed, on account of his great strength, *Iron*; who was a great favourite with Edward the Third of England, and much envied, as favourites are always sure to be by the rest of the courtiers. On one occasion, when the king was absent; some nobleman maliciously instigated the queen to make trial of the noble blood of the favourite, by causing a lion to be let loose upon him saying, according to the popular belief, that "if the earl was truly noble, the lion would not touch him." It being customary with the earl to rise at break of day, before any other person in the palace was stirring, a lion was let loose during the night, and turned into the lower court. When the earl came down in the morning, with no more than a night-gown cast over his shirt, he was met by the lion bristling his hair, and growling destruction between his teeth. The earl not in the least daunted, called out with a stout voice, "Stand, you dog!" At these words the lion couched at his feet, to the great amazement of the courtiers, who were peeping out at every window, to see the issue of their ungenerous design. The earl laid hold of the lion by the mane, turned him into his cage, and placing his night-cap on the lion's back came forth without ever casting a look behind him.

"Now," said the earl, calling out to the courtiers, whose presence at the windows instantly convinced him of the share they had in this trial of his courage, "let him amongst you all, that standeth most upon his pedigree, go and fetch my night-cap."

LOADING HAY IN CHILI.—Almost all substances from the earth or sea, are transported upon the backs of mules in the country. Hay is wholly brought to market in that way. A man mounts his mule and stands erect, while a second throws him up small bundles of long green hay, which he places round him as our hay makers load a cart. When a mule is so laden that nothing but his long ears and the owner's head are visible, he is brought to the city, where the rider sells to one and another, until his load is gone.

Long sticks of timber are brought to market on mule-back, one on each side of the animal. They are crossed and lashed together on the saddle; the upper ends project beyond the mule's head, and the lower ends drag on the ground behind, and sweep the whole street.

END OF THE WORLD.—What would you think, enlightened reader, of a mechanic, universally deemed skilful, that should produce a chef d'œuvre of his genius in the shape of a machine, whose mighty powers were to be developed by the turning of the master—but who after producing this machine to the world, and declaring it to be perfect for the object intended, should after setting it in motion, in a moment of phrenzy, dash the machine to pieces before it had been tested by a single evolution of the wheel. Think you not that you would forthwith point to the lunatic asylum as the abode that would be best fit for him?

Precisely in the same position do those short-sighted people place Omnipotence who pretend that this globe has existed but a few thousand years, and is destined to a speedy dissolution, as science has demonstrated to us beyond the possibility of doubt, that one of the movements of the globe (that which comprises the variation of its axis) requires above two million and three hundred thousand years for the consummation of a single evolution. Thus much is amply sufficient for the present argument, and we will therefore merely ask in addition, that the mind should contemplate the period that must be required for a single evolution of our entire system, which is now know to be advancing in space around some mighty centre, never yet visible even with the telescope, and whose potent influence is evinced only in the demonstration of its invincible power.—*New York Sun.*

An eminent physician has recently discovered that the nightmare, in nine cases out of ten, is produced "from owing a bill to a newspaper."

Original.

THE HIGH DESTINY OF MAN.

BY JOSEPH H. BUTLER.

What is the flight of time to man,
Whose soul is of ethereal birth?
Why should we mourn life's transient span,
Our rightful homes are not of earth?

Born to a loftier destiny,
Imbued with attributes divine,
He triumphs o'er mortality
And rises from the wreck of time!

The elements that form his frame,
Must soon dissolve as mountain snow;
But, Phœnix-like, the soul of flame,
Clear o'er its mouldering dust shall glow.

Then welcome be the frost of age,
Descending on my beating brow;
And wandering on life's pilgrimage,
I trace the waning even now!

I feel the fiery glow of youth
Is quenched forever on its shrine,
As romance feels the sun of truth,
Its memories alone are mine!

Much I have borne, "to be forgiven,"
(Which the cold world can never know,)
Secret to me and Him in heaven
Who ever pities human woe.

Still let me cast a glance along
The dark'ning vista of my days,
Still let me frame an artless song,
Regardless of the voice of praise.

Again they come, those vanished dreams!
That hovered round my youthful head,
Like the pale, mystic fire that gleams
Above the dwellings of the dead.

They pass like shadows, from my eye
Fades every scene with beauty rife;
My hope is centred far too high
To wither with the things of life!

Heir of immortal life and bliss,
Shall I repine for human joys?
Yet clinging to a world like this,
Where mere possession bliss destroys!

Over you firmament of blue,
Grim midnight throws her dusky veil,
Shrouding the silver stars from view,
And mantling Luna's brow so pale.

Let them forever quench their fire!
Let this bright planet too be dark!
Bid worlds on worlds in wreck expire,
No change can quench the vital spark!

The pyramids shall crumbling fall,
Commingling with their parent dust,
And marble temples, proud and tall,
Perish, O time, beneath thy touch!

Ruin may darken the crushed spheres,
But what to me their ruin, all!
An essence, living on thro' years,
Shall triumph over nature's fall.

Be it our ceaseless aim, while here,
To know, and act, by wisdom's ray;
Then dash aside the useless tear,
Short is the evil of our day!

Confronting sorrow, pain, and death,
The loss of wife, or child, or friend,
Calmly resign our parting breath,
To meet where pleasure cannot end!

Troy, Feb. 1843.

ORGANIZATION OF INDUSTRY.

BY MEMBERS OF THE ASSOCIATION.

ASSOCIATION.

That we are all in *pursuit* of happiness is a self-evident truth, but that we are not sufficiently enlightened as to the best means of securing its enjoyments is sufficiently obvious in the unhappiness that so universally prevails. It therefore behooves us to examine carefully every reasonable theory that has the promotion of happiness as its professed object; and however radical a change may be proposed, there is no good reason in persisting in a course that experience has taught us is fraught with evil, without giving proposed improvements a candid investigation. To lead to such an investigation of the principles of association is the object of these remarks.

That the possession of wealth alone is insufficient to secure happiness is abundantly illustrated in the close fisted, narrow contracted, miserly dispositions of thousands who have worshipped mammon all their days, and have finally descended to their tombs unremembered except by those who have suffered by their overbearing exactions, or perchance by those who are now rioting in dissipation on their hoarded thousands. If, therefore, happiness is not to be found in the exclusive pursuit or possession of wealth, the question arises to what source shall we look for it? The most natural answer to the query would be that true happiness consists in the healthful and harmonious exercise of all the physical, mental and moral faculties which nature's God has endowed us with.

That the present organization of society is calculated to pervert the free and harmonious operation of these faculties we think experience has fully tested, and it will be our endeavor to show wherein Association would remedy the existing evils.

One of the most prominent of these evils is the SELFISHNESS engendered by the spirit of competition that so universally prevails. Selfishness is well enough in its place, and when we have carried out the principle of loving our neighbor as well as ourselves we have done well enough, but it is this spirit of exclusive selfishness which results from the clashing of interests that infuses a poisor into every department of our business and social relations—chilling by its blighting frosts the warmest and loveliest sympathies of our nature.

To illustrate. An enterprising citizen with a limited capital foresees the necessity of accumulating for his individual benefit a sum sufficient to ensure against misfortunes and wants incident to old age. His warm attachments to his family and the friends of his childhood endear him to his native town, and he sees a prospect of succeeding in the business of his choice without interfering with the rights of others. He makes his purchases with the honorable view of paying a fair price for his goods—the golden rule of "doing as he would be done by" suggesting to his liberal mind the idea that those of whom he purchases should live by their business. He commences his business with a view of selling at a fair price, making a reasonable profit on each article; but he soon learns that his competitor has been ransacking the market to learn who, in a time of pecuniary embarrassment, would make the greatest sacrifice to obtain ready money, and has thus laid in his stock of goods at a much less rate, and is now selling, especially a few leading articles, at a less rate than he has paid for them. Here comes the first blow to his hopes of honorable success, and he soon learns that he must either give up his business or pursue the course of his competitor. The tempter suggests that it is none of his business in making purchases whether the seller makes a sacrifice or not, and accordingly he commences the "jewing" system. His better nature first revolts at the "tricks of the trade," but the necessity of the case and the excitement of oppostion soon blunt the more refined feelings of his nature, until almost unawares he becomes the narrow minded, close fisted worshipper of mammon that he once detested, and by the time he has arrived to the point of wealth at first aimed at, his habits of penurious selfishness have become so deeply rooted, that accumulation of wealth becomes his absorbing passion, and the once noble powers of his mind become prostituted to the simple object of worldly gain or individual aggrandizement.

There are it is true, honorable exceptions to the above general rule, but that such is the general result of the present system of competition needs no further proof than daily observation. Nor are the evils confined to our business relations, the bitterness, the rivalry, the exclusive selfishness thus engendered spread from the shop to the family, and are soon diffused into the school room, the social circle, the church and the legislative hall, until the very atmosphere becomes surcharged with a moral upas—blasting and withering in its onward course of destruction the most generous and lofty impulses of the human breast, and degrading the image of God to the level of the cur whose pride consists in the exclusive possession of his bone.

To all this little, narrow contracted selfishness the doctrine of Association aims at once a death blow, by making it for the individual interest of each to promote the welfare of the whole body; and by being allowed a fair price for services rendered the individual rights and privileges of all are secured. We shall then cease to injure our neighbor's business, for we shall have no possible interest in so doing; hence one of the greatest stimulants to bickerings and contentions will no longer exist. *There* will be no grinding of the poor, for each person in health will have the means of helping himself, and the aged and infirm, having contributed to the wealth of the Association have an *acknowledged right* to a support from it means. There will it be that the true value o. wealth will be learned and prized, and there will it be accumulated. Not to be hoarded up in a miser's chest, but to be used as a means, not an end, of promoting human happiness. The selfishness of mankind having no longer food on which to subsist, the mind will be supplied with a more wholesome nourishment, and instead of taxing its powers in planning ways and means to cope with the cunning and duplicity of a competitor in trade or politics, it will be left free to grapple with the mysteries of science, and luxuriate in the broad sunshine of nature's glorious works.

Having endeavored to point out the superior influence of Association on the general character, it will be our endeavor at a future time to show some of its advantages in point of economy, education, &c.

POSITIVENESS.—It was a shrewd maxim of Wesley, the founder of Methodism, not to be positive in things of doubt and uncertainty. "When I was a young man," said he, "I was sure of every thing; but in a few years, finding myself mistaken in a thousand instances, I became not half so sure of most things as before."

A BAD EXCEPTION.—A gentleman finished an eulogium on a lady with these words:—"Ah Sir! nothing beats a good wife."—"I beg your pardon," rejoined a byestander, "a bad husband does."

ALBANY, SATURDAY, MARCH 25, 1843.

SNOW BANKS.—Several of our streets have for the last week presented the unusual phenomenon for this time of year, of an impassable barrier of snow. The winds too have poured down a constant blast from the region of perpetual ice. The mails and expresses were thus embargoed in every direction, and there was nearly a week of holidays in the post office. The expresses did not go south from Thursday night till Monday morning. Was the like ever known in the middle of March, within the memory of that notorious individual, "the oldest inhabitant!" At the time of writing this, the 23d, there is a furious storm, which bids fair again to block up the roads.

Our New York patrons will please to make it convenient to excuse the storm for delaying their papers. They were as usual deposited in the express office on Thursday evening, and probably reached them about the middle of this week. If they will have a little patience the ice will begin to melt at the pole all the sooner, no doubt.

THE PRESENT CONDITION OF THE MILLIONS.

It is a mean unworthy idea to regard the mass of mankind as beasts of burthen, never destined to intellectual and moral greatness. But in spite of this soul-chilling doctrine, we have a holier faith and a fixed hope on the improvement of human condition and human life. It is true that the necessity to drudge and labor makes the spiritual nature of man sensual and earthly. But this necessity is a social evil, which knowledge will yet remove. The cares of life engross his attention, and weaken his desires for those higher pursuits, views and feelings, consonant to his moral nature; but those cases must be abridged. We must be freed from the anxieties of a mere subsistence, in order to put forth the higher faculties of his nature. If the body has to absorb all our care, we cannot do justice to the mighty spirit which is in man—we cannot unfold the glories of our moral and intellectual being. If we are chained up to the consideration of, wherewithal we shall eat and be clothed, how can we obey the voice of our higher nature? The necessities of man's state are arrayed against the necessities of his mind. He may indeed live like an animal; he may possess little knowledge; and may have sacrificed his mind to the urgent wants of his body, that cannot live without food. This is in reality the present condition of millions. On Monday morning multitudes commence a course of ceasless toil. They spring up in a state of anxiety over which they have no control. Before they had either reason or moral perception to direct their course, they had to engage in that trial from day to day, and from week to week, without intermission. Saturday finds their energies exhausted, Sunday dawns upon them in a state of mind not in unison with the requirements of religion. They have no bodily and mental vigor fitted for enjoyments at once elevating and spiritual. It is vain to say to individuals that they err in so acting. What can they do? They are carried along in the great stream of social and commercial pursuits. In resisting it they would sink and perish. They must engage in the routine of daily toil, under the pain of absolute starvation. Were man not a moral and responsible being, he might be exhorted to submit patiently to those labors; but from the principles of his nature, it is self evident that exhausting toil is incompatible with its culture and enjoyment. He whose body is relaxed with fatigue, is not in a condition to exert the faculties of his mind in the work of self culture; he cannot pursue a train of reasoning, or delight in virtuous intellectual exercise. Is this melancholy state of things to last. Reason and religion say. No.

For what has been all this labor? To make the wealth that perisheth not; certainty to acquire intellectual riches, and the fruits of virtue that endure for ever. And for whom do the mass so labor? For the reputed great ones of the earth, who highly value the honey they produce, but think very meanly of the industrious bees to whom they give the liberty to toil, and to sweat; but whom by every means in their power, they limit and cripple in their energies, to avert the righteous reward of their honest labor. They have too long obeyed their orders, bowed to their caprices, sweated for them the wearying summer's day, wasted for them the wages of their toil, fought for them, conquered for them, bled for them, and still to be trampled on, and still despised! Shall they indeed sit tamely down beneath these evils? No! The mighty multitude shall yet trample down the power of their oppressors; and enjoy a better state of existence, and popular control, to make all these old and evil things new. We must have more leisure, more comfort, more means or self-improvement. We must have society raised above the wasting-away fears and torments of daily and of animal wants; we must have his home brightened, and the thoughts of his children made delightful; we must give him space for the cultivation of his heart and mind, of all those faculties that constitute him a man and a citizen. Pain must be lessened—pleasure increased; toil diminished and leisure for soul-improvement enlarged; respect for worth must be cherished, and for the glitter of wealth be weakened; enslaved humanity must break its chains, and man stand forth such as God intended him to be, the brave, the frank, the bold, the happy and the free.

> "Man was not made too burrow in the earth,
> But to the skies, to raise his heaven-directed head,
> To aspire to peace and happiness, to justice and to love;
> His mental energies by nature given
> Are wasted in a vile and servile use."

PETITIONS, &c.

The mechanics are pretty thoroughly arroused on the prison question, and seem determined to strike as one man at the root of the evil. During the past week many petitions from every section of the state have been received, and the Common Council of Brooklyn in their official capacity have protested against the continuance of the present iniquitous system. One thing is peculiarly gratifying, viz. that the plan proposed by Mr. Cook meets such general and hearty support from the mechanics. As the organ of the mechanics of the state, and speaking their sentiments, we feel authorized in saying that Mr. Cook's plan meets with their *unanimous* approval. It had received their official sanction before Mr. C's report was presented, and now it only remains for the state to give the subject that attention which its importance demands. It is to be hoped further, that the suggestion of interested schemers, and the groans of *local envy* will have nothing more than their *due* weight in determining the action of our legislative body.

It will be seen that the legislature adjourns on the 18th of April, and therefore it behooves our friends in the country to do what they have to do quickly. Let them not suppose that the subject meets with no opposition here. Of the influences that are brought to bear in this city on the minds of our legislators and executive officers, persons abroad can have no adequate idea, and the mechanics must move NOW—more together,—there must be no delay. Send in your resolutions—send in your petitions—*without delay*, speak out. To work, *move*, one and all.

IRON MANUFACTURE.

Considerable misapprehension seems to exist among many, apparently, well meaning men, in regard to the recommendations of Mr. Cook. They seem startled at the "absurdity" of employing convicts in the manufacture of iron in our northern districts, *because charcoal* must be used for smelting—and charcoal, they say, cannot be obtained for any length of time, in sufficient quantities for the use of the forges, and that pit coal iron, because it can be made cheaper, will utterly supercede charcoal iron. Now this objection results from a lack of information on the part of the person urging it. If it is not known, it is time that persons who *write* for newspapers *should* know, that charcoal made iron is absolutely indispensable for certain purposes, where really good iron is required—such as chains, tools, all iron required for steel, sheet iron, wagon tires, machinery, &c., &c. It is this that makes Russian and Swedes iron, the best kinds known, so valuable—all this iron is charcoal made. Anthracite made iron *cannot* be used for the purposes we have specified—and consumers in this city are now paying $100 per ton for hammered charcoal iron, such as it is proposed to furnish at the northern mines, by convict labor. Even if anthracite iron can be made for $5 instead of $20 per ton, it cannot supersede charcoal made iron, at present prices, or indeed at any price. But, as we before remarked, the man who urges this "preposterous notion," in the public prints, must be either grossly ignorant—this is the most charitable conclusion—or else a designing knave.

Then as regards the question of "sufficiency of charcoal," we claim to have some little personal knowledge. The whole country, for many miles around the Clinton mines is heavily wooded, and the growth would supply all the charcoal necessary as long, to say the least, as it behooveth us to look ahead. The land can be purchased at from $1 to $3 or $4 per acre, and as the most of it is valueless, except as timber land, the second growth, if suffered to "run up," would, in a few years after being "cut over," supply an abundance of the *best* kind of wood for charcoal.

In the vicinity of other mines in that section, for instance the Peru mines, where the land is but poorly covered with an inferior kind of timber for coal, and where the iron manufacture has been carried on to the almost princely emolument of the proprietors, for 25 years, coal is now afforded at prices absolutely lower than in years past, and as low as they have ever been. So much for this objection, and this is the only one urged thus far, against the plan, that is worth notice.

THAT GRANITE QUARRY.

The patriotic gentlemen who represented the above portion of the state in our Legislature seem to have "taken themselves" off. We much lament this, mostly, however, on account of the loss to our hotel keepers—loss, did we we say? *pr*ehaps to lose is to gain; we say, *pr*ehaps.

But seriously, a more ridiculous project under the circumstances was never urged by sane men, (we always except Col. Stone's silver mine) and it will meet all the consideration it deserves—which is just none at all. It is very kind though in the granite men to urge the state to take a work which is so *very* valuable; pure patriotism, no doubt; no interested motives, oh no!

WHICHELLO'S GREAT PICTURE.

This picture is undoubtedly what it *professes* to be —*not* a veritable painting "by our great countryman West." It is a labored production, and as in these latter days the *critic* has given place for a man with a great "bag o' wind," behight the "*puffer*," we of course have nothing to say of the defects in this truly grand picture. It is said to have been designed in part by the great architectural painter Martin, and it evidently bears the marks of his powerful *imaginative* genius. It is now exhibiting at the Museum, and is well worthy of a visit; and deserves not a mere passing glance, but a careful study. Go and see.

CAST-IRON BUILDINGS.—A correspondent of the London Times says:—"Buildings of cast-iron are daily increasing, at a prodigious rate, in England, and it appears that houses are about to be constructed of this material. It is proposed that the walls shall be hollow, so that the whole house may be heated by a single stove in the kitchen. A three story-house, containing ten or twelve rooms, will only cost about £1000; and it may be taken to pieces, and removed to another place, at an expense of about £25. It is understood that a large number are about to be manufactured, to be sent to Hamburg, for those persons who have had their habitations burnt."

GALLERY OF THE ARTS.

I take great pleasure in seeing that you have occasionally notices of art and artists in your paper.

It is matter of rejoicing that even one paper in our city can conceive that there are some other things of quite as much consequence to the well being of society as the everlasting din about politics, growing, as I believe this clamor does, out of mere selfishness and the strong partizan desire of place and profit.

It is not my object now however, to say particularly what I think of the party movements of the two great political parties, but simply to remark briefly upon the object at which you hinted in your paper of Saturday last; that is, the getting up of an exhibition in our city of the works of art from our own city artists and others. Such an association, and for some such an object I have frequently thought of, and sincerely desired might be effected. The benefits to society growing out of the cultivation of a proper taste for the fine arts is universally admitted by all who have troubled themselves to think on the subject. A just appreciation and perfection of the arts, are the crowning ornament of civilized society. Even the untutored Indian feels his savage ferocity subdued while beholding a fine picture, and the mind in all communities where art is exhibited in its perfection and chastity, is subdued and softened more into keeping and harmony, with the mind of the GREAT ARCHITECT of the universe, who has every where left us examples of his matchless skill for our feeble imitation and admiration. He who despises art (if such a being was ever known) it seems to me despises him who formed the landscape, painted the rainbow, and put the last exquisite touches upon the human face divine, and pronounced upon all that he had made "very good."

Allow me to suggest, that a meeting of our citizens be called at once to digest a plan which shall best carry out the object of promoting art in our city and country.

Respectfully,
E. W. GOODWIN.

POWER OF TENSION AND REACTION.

Being somewhat insolated by location, and not enjoying the privilege of associating with practical scientific mechanics, I wish to raise through your columns, some discussion on subjects of practical mechanism.

The strain on a steam boiler is in proportion to the diameter of its heads; and if a boiler four feet in diameter will sustain the pressure of three atmospheres, then a boiler of one foot diameter, made of the same kind of iron, will sustain a pressure of twelve atmospheres, or 180 pounds to the square inch. Now for the purpose of propelling a canal boat without the disadvantages of a paddle wheel, suppose we erect a steam boiler over a furnace, lengthwise of a boat, strong enough to sustain a pressure of twelve atmospheres. Then if we raise the steam to that tension, and make an aperture at the stern end of the boiler, of one square inch, the power of tension on the forward end of the boiler would be 180 pounds more than at the aft end; and hence, if the boiler was made fast, this power would have a tendency to move the boat forward. How large an aperture might be made, and keep this tension up, I will leave for some of your readers, who are practical engineers, to say. I have seen it remarked by an author, that steam heated to 400° may be made to produce a tension of nearly a thousand atmospheres. Suppose then that we partition off a section of the boiler at the farther end, for the purpose of passing the steam through, and heating it in order to keep up the tension to twelve atmospheres, with an aperture of two inches; this would give a pressure of about 720 pounds at the forward end of the boiler. Now I would wish to inquire of some of your scientific readers, whether this would not move a boat forward equal to four good horses; or rather how fast it would move the boat forward? This I denominate the power of tension. Now, how much power we shall have in reaction I am not able to determine. The steam in escaping will remove sixty pounds of atmosphere, but with what velocity I am unable to calculate. I wish some of your readers who have made a study of these things, would inform us through your columns, how fast a boat of say sixty tons, can be make to move on the above plan.

SUGGESTION.

☞ We sincerely condole with our Dutch uncle of the *American Mechanic*, whose woes are truly grievous.

INTELLIGENCE.

The steamboat Cutter, at Pittsburgh, on Friday last, collapsed the flue of her starboard boiler, killing three persons and more or less injuring ten others.

A letter from Amsterdam, February 4, states that the tower of the church of Westzaan, in southern Holland, one of the most remarkable monuments of the middle ages, had just fallen down.

The value of the steamboats owned in Cincinnati is said to be nearly *two millions*. They employ 2,379 hands, and their united tonnage is 19,483.

American Tin.—Dr. Jackson, of Boston, Mass., has forwarded to the National Institute at Washington, an ingot of fine tin, which he extracted from an average lot of the tin ore discovered by him in New Hampshire in 1840. He says the compact tin ore as it is usually got out by blasting, yields thirty-five to forty per cent. There is every probability that the yield is seventy-three per cent. of pure tin, and the ore, mine will prove profitable, when skilfully and economically worked.

The *Sentinelle* of Toulon states that workmen of all kinds in that neighborhood are sought after by the government for emigration to the Marquesas. Those who are willing to embark are to be allowed to take their families with them, and the whole are to be kept on board, at the expense of the government, until the houses in which they are to reside on shore shall be ready to receive them.

Mechanics.—The late pecuniary revolution, says the New York Sun, which has desolated the land, has left a valuable testimony of the mechanics, *as a class*. In looking over the list of bankrupts we find but few of them, and it is a remarkable fact that their assets were 30 per cent more than the assets of those who affected to despise the name of mechanics. To the mechanic there is no capital like integrity. The great secret of the success of the first mechanics in this city, is the forming of their conduct by the rules of industry, and a just sense of the effect of moral elevation. They have guided them in prosperity, and when the hour of adversity has reached them, it has been a consolation to themselves, their families and their friends, that they have preserved their integrity spotless and unimpeached.

The Fulton manufacturing company, at Cincinnati, employs 100 hands in the manufacturing of cotton bagging from Kentucky hemp. It makes 1500 yards of 45 inch bagging in a day, and consumes 3,000 tons of hemp yearly.

Audubon, the Naturalist, passed through Philadelphia a few days since, and is now on his way to the Rocky Mountains, in pursuit of quadrupeds! He is accompanied by a party of four gentlemen, all able and enthusiastic naturalists.

Maine Fur Trade.—It may not perhaps be generally known that Maine furnishes more fox skins than any territory of equal extent in the world. Two years since, a New York trader passed through our town into Maine, and in less than a fortnight returned again with nineteen thousand fox skins—for which he paid about $25,000. It was estimated that 40,000 foxes had been killed in Maine that winter.—*Portsmouth N. H. Journal.*

A single fortress of the new military works at Paris cover 300 acres.

Chinese Head Dress.—Among the new things which Sir Henry Pottinger found at Nankin, and sent as presents to the Queen, was a Chinese head dress, or bonnet worn by the ladies of the court, and different in materiel from anything which has before appeared in Europe.

It is made by interweaving the pearl white hair of the Arabian horse, or camel, with a new and very beautiful substance, which has all the brilliancy of diamonds, emeralds and amethysts, spun into threads and wove. The effect is as chaste as it is beautiful. Our chemists and manufacturers are trying to imitate it and we hope they will succeed. If they do the Chinese bonnet will be to bonnets what the cashmere shawl is to shawls.

Old Herbeault, of Paris, who has supplied the ladies of the courts of Europe with their head dresses for the last twenty years, made a journey all the way to London to see it.—*London Court Journal.*

Anthracite Furnace.—We learn from the Danville Democrat, that this furnace which has been idle for nearly a year, is soon to be blown in again. Many improvements have been made in the manner of working it, which it is thought will considerably lessen the cost of manufacturing Anthracite Iron.

A New Cathedral.—A splendid Roman Catholic Cathedral is now in process of erection in Cincinnati, Ohio. Its dimensions are two hundred feet in length, by eighty feet in width, and fifty-five feet in height. The tower will be two hundred feet high, ornamented with an enormous clock and a heavy chime of bells. To support the immense weight of the clock and bells, the tower will be built in the most solid manner, and slowly, so that the materiels will have time to settle down firmly. The tower and the Cathedral will be built wholly of dressed limestone.

The Comet.—The following notice of the *streak* in the heavens, which has puzzled the scientific for the past two weeks, is supposed to be from the pen of Noah Webster.—"The present comet is considered as a very brilliant phenomenon, but it is far inferior to that which I saw when young, either in 1769 or 1770. That rose in the morning before the sun, and its stream of light extended nearly from the horizon to the meridian, 80 or 90 degrees. It proceeded from a point and became wider at the extremity, like a dove's tail. It covered five times the space in the heavens which the stream of light from the present comet covers. This light always appears opposite to the sun, and is probably the light of the sun modified by the neuclus or atmosphere of the comet, in some measure like the streaks of light which we often see in summer occasioned by the rays of the sun passing through vapor in different degrees of density. The vulgar notion is that when these streaks appear, the *sun draws water*, when the appearance is made solely by the light passing through vapor, or between portions of it.

The tail of the comet is *not* fire, and it might sweep over us without our perceiving it. Indeed this is probably the case sometimes, when a comet comes directly between the sun and the earth.

GENEVA RESOLUTIONS.

At a meeting of the Ontario county association, the following resolutions were passed, to which we would call the attention of mechanics.

Resolved, As the sense of this association, that the prosperity of the country, and the stability of our free institutions, imperiously demand, among all the laboring classes, a higher state of mental cultivation.

Resolved, That for the attainment of so important and desirable an end, we will not only make strenuous and persevering efforts for the cultivation of our own minds, but we will exert our united and individual influence to induce others to pursue a similar course, until the whole body to which we belong, are sufficiently versed in the elementary science of government to perform the various duties of official station, with credit to themselves, and benefit to the public.

[The next two resolutions have reference to the *Geneva Advertiser*, a very creditable paper, a portion of which, conducted by Mr Israel Huntington, president of the State association and a practical mechanic, is devoted to the interests of mechanics, and we hope will be properly sustained by them, as it deserves to be.]

Resolved, That we earnestly recommend to the producing classes, to withhold their votes from hackneyed politicans, and lepd their influence to elevate to office none but those, whose purity of private life will vouch for their political integrity, and afford a sufficient guaranty for the genuineness of their patriotism.

Resolved, That while other branches of society have been watchful of the lawmaking powers, and jealous of its exercise, and thus secured themselves from unjust and oppressive legislation, Mechanics have been culpably negligent in that respect; and with hardly a murmur of dissent for years, allow a system to grow up in the state in the application of its criminal code, subversive of their best interests, and which violates their constitutional and vested rights.

Resolved, That the report of Ransom Cook, Esq., to the present legislature, on the subject of employing the state prison convicts in making iron, has our hearty approval, and merits the approbation of all, for disclosing a system, which, without violating the obligations of humanity, will greatly simplify the keeping and supervision of the prisoners; increase the value of their labor fourfold; renders them far less dangerous to society when discharged, and effectually removes the great injustice inflicted on the whole body of virtuous mechanics by the existing system.

Resolved, As our unanimous opinion, that it is incumbent on the legislature to make provision for carrying the said report into immediate effect, that the state may derive the greatest possible benefit from the labor of the convicts, and every just cause of complaint in the premises be removed.

Resolved, That the commissioner, R. Cook, Esq., merits our warmest thanks for his untiring industry and perseverance in his late survey of the northern mining district of this state, and lucid report thereon to the legislature, notwithstanding the insufficiency of their *niggardly* appropriation to cover the expense.

Resolved, That the proceedings of this meeting be signed by the president and secretary, and published in all the papers in the county, and also in the State Mechanic, published at Albany.

WM. G. MONELL, *Pres't.*

S. EDGERTON, *Sec'y.*

BUSINESS NOTICES.

☞ All letters and communications intended for this paper should be *post paid to secure attention.*

Terms for vol. 2.—To clubs of 20 or more, having the paper sent in one package, $1 each per annum, in advance.

To clubs of not less than 5, sent as above, $1.25 each, in advance.

Single subscribers $1.50, in advance.

Members of the state and county or town associations, subscribing through the secretary, are entitled to the paper at $1 per annum, in advance.

All papers discontinued at the expiration of the time paid for, unless previously renewed.

BINDING.—Subscribers wanting their volumes bound, can have them done in any style and at reasonable prices, by leaving them at this office.

Several volumes of the Mechanic left to be bound some time since are now ready for delivery. The owners are requested to call for them.

To Printers.—FOR SALE CHEAP, a Fount of second hand Pica, about 200 lbs., in good order. Also a quantity of Leads, of different lengths, as good as new. J. MUNSELL.

Wood Engraving and Designing.

E. FORBES is prepared to attend to all business of the above description at the *Sculpture Rooms* 17 Stanwix Hall.

BOOK BINDING.—HARVEY H. CORNING, sign of the golden ledger, 82 State street, Albany, carries on the above business in all its various branches, viz: PLAIN, EXTRA and SUPER EXTRA—has a first rate RULING MACHINE and other necessary implements for manufacturing BLANK BOOKS of every description, on the most reasonable terms, of the best materials and workmanship.

N. B. An assortment kept on hand. 27.

TO HOUSE BUILDERS.—FOR SALE—an IRON SCREW AND BOX, suitable to be used in removing or raising buildings. Inquire at Blackall's, corner of Hamilton and William streets. March 18.

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SUCH AS

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Neatly and Expeditionsly Executed at the Lowest Prices,

BY

J. MUNSELL,

At the Office of the MECHANIC, No. 58 State street,

ALBANY.

WOOD ENGRAVING.

N. ORR, (late pupil of J. H. Hall,) is now prepared to execute any orders in the above business, which he may be favored with, and respectfully solicits a share of patronage.

Room No. 6, 3d floor, Exchange.

Having made arrangements with Mr. N. ORR, to do my wood engraving, I recommend him to the public as one who understands his business and will doubtless give satisfaction.

JOHN H. HALL.

Albany, Feb. 1st, 1843.

LEATHER, OIL, AND FINDING STORE,

No. 18 Hudson Street.

J. HOCHSTRASSER,

Will continue the above business at his old stand, and having made arrangements with manufacturers of Leather and Morocco in the cities of NEW-YORK, PHILADELPHIA, and ALBANY, and having in his employ first rate workmen, he is enabled to supply his customers with all the articles in his line on the most reasonable terms, at *Wholesale* or *Retail*, the following are included in his assortment: Oak and Hemlock Harness, Bridle, Collar, Horse, Trunk, Valise and Skirting Leather; Hog Skins, Philadelphia Russet Bridle, do. Facing Skins, do. Lining Hides, do. Top Hides, Patent Leather, Coach Roans, Neats Foot and Liver Oil, Currier's Tools, Oak Sole Leather, Hemlock do., Wax and Grain Upper Leather, do. Calf Skins, Kent's Philadelphia do., Seal and Kip Skins, Splits and Welt Leather, Cordovan, Red, Green, White and Yellow Linings, Goat and Sheep Binding Skins, White Alum Dressed Linings, Dressed and Undressed Morocco, Colored Goat and Sheep Skins, English Shoe Thread of all numbers, India Rubber and Patent Cloth, Apron Skins, Stock Binding, &c.

N. B. An assortment of SHOE MAKER'S FINDINGS will be kept on hand.

Also, *Roller Skins, Engine Hose, Band, Picker, String*, and *Patent Leather*, on hand and made to order. *Albany*, 1841.

To Cabinet-Makers and Upholsterers.

DANIEL FRY, No. 40 State street, *Importer of Cutlery and Hardware*, keeps constantly on hand a good assortment of HAIR SEATING and CURLED HAIR, together with a complete assortment of *Cabinet Makers' Hardware*, which is offered for sale low for cash or approved credit.

FIRE ENGINES!!

THE subscribers are manufacturing at Waterford, on an extensive scale, Fire Engines of various patterns, to suit purchasers, and they do not hesitate to recommend their Engines as decidedly superior to any now in use.

They manufacture the common Piston Engine, to work with chains or connecting rods, which they have improved in the construction of the brakes and the application of the power, so as to give them a decided advantage over those now in use. They also manufacture Rogers' Patent Balance Fire Engine, which has always been proved to be of *superior* power to all others.

Prices at the Factory, in complete order for use:

Those designed

For 40 men,	largest	Philadelphia	size or	11 inch chambers,	$850
" 28 "	"	Albany	"	8 1-4 "	700
" 22 "	"	Common	"	7 "	600
" 16 "	"	N. York city	"	6 1-2 "	525
" 12 "	"	Small		5 1-2 "	450

These prices are one hundred dollars below what engines have formerly been sold for, but they are reduced to suit the times.

The above prices can be reduced $50, by dispensing with the tower and goose neck and passing the water through the forward end of the machine. The *utility* of such an engine is fully equal to any other form, but its appearance is not quite so good. They also manufacture Factory Engines and Forcing Pumps of all sizes; Suction and Leading Hose to order, both rivetted and sewed, of the best quality.

They have been in the business 8 years, and might furnish many testimonials of good workmanship, &c., but as purchasers are supposed to prefer judging for themselves, the subscribers will furnish an engine where desired, and if on trial it is not fully equal in *all* respects to the *best* engines now in use, they will take it away without charge. Having an unlimited water power situated at the head of sloop navigation on the Hudson river, and near the junction of the Champlain and Erie canal, with a rail road connecting east with Boston and west with Buffalo, our facilities and arrangements for manufacturing are such that orders can be filled, at any season of the year, and with the greatest promptness and despatch at the lowest rates.

L. BUTTON & Co.

Waterford, Saratoga Co., N.Y.

COLD WATER ANACREONTIC.

Fill up the bowl, aye fill it high,
And let the draught be deep, sir,
We don't drink rum when we are dry,
Nor when we're washing sheep, sir.

Fill up the bowl above the blue,
And empty clean the pail, sir,
A man 'll see a thing or two
In drinking Adam's ale sir!

The glorious bowl is blue and white,
Done by an English hand, sir;
And represents a hard sea fight
Done by a Yankee band, sir.

Where Hull first saw the British flag,
And leap'd upon the ocean,
And pull'd it down like any rag,
A real "Boston notion."

Then fill the bowl—the water's cold,
And trembles on the side, sir;
'Tis drinking makes a man so bold,
And reckless of his hide, sir!

Just keep cold water in your shop,
Nor more disturb your wife, sir;
So if she scold just take a drop,
'Twill cool the heat of strife, sir.

Or if your friend is fond of rum,
And snores too late a bed, sir,
Take up the pail and give him some,
'Twill cool his feverish head, sir.

Hail to cold water! fill the bowl!
'Tis pure, and clear and bright, sir,
And trickles through the very soul,
A sparkling, liquid light, sir.

PUNCTUALITY.—Washington accomplished the most part of his great works, with apparent ease, by rigid observance of punctuality. It is known that whenever he assigned to meet Congress at noon, he never failed to be passing the door of the hall when the clock struck twelve. His dining hour was 4, when he always sat down to his table, only allowing five minutes for the variation of time-pieces, whether his guests were present or not. It was frequently the case with new members of Congress, that they did not arrive until dinner was nearly half over, and he would remark:—"Gentlemen, we are punctual here; my cook never asks whether the company has arrived, but whether the hour has." When he visited Boston in 1789, he appointed 8 o'clock in the morning as the hour when he should set out for Salem, and while the Old South clock was striking eight, he was crossing his saddle. The company of cavalry which volunteered to escort him, not anticipating this strict punctuality, were parading in Tremont street, after his departure; and it was not until the President had reached Charles river bridge, where he stopped a few minutes, that the troops of horse overtook him. On passing the corps, the President with perfect good nature, said—"Major——, I thought you had been too long in my family, not to know when it was eight o'clock." The following anecdote was related by captain Pease, the father of the stage establishment in the United States. He had purchased a beautiful pair of horses, which he wished to dispose of to the President, who he knew was an excellent judge of horses. The President appointed 5 o'clock in the morning to examine them at his stable. The captain, thinking the hour was early for so great a man to be stirring, did not arrive with the horses until quarter after five, when he was told by the groom that the President was there at five, and was then fulfilling other engagements. Pease was much mortified, and called on major Jackson, the secretary, to apologize for his delay, and to request the President to appoint some new time; and he added that he found the President's time was wholly pre-occupied for several days, and that he was compelled to stay a week in Philadelphia on expense, before the examination took place, merely for delaying the first quarter of an hour.

ECONOMY.—M. Say the celebrated French writer on political economy, has the following story:—"Being in the country, I had an example of one of those small losses which a family is exposed to through negligence. From the want of a latch of small value, the wicket of a barn yard, (looking to the fields) was left open; every one who went through, drew the door too, but having no means to fasten it, it relost. One day a fine pig got out and ran into the wood, and immediately all the world was after it; the gardener—the cook—dairy maid, all ran to recover the swine. The gardener got sight of him first, and jumped over a ditch to stop him, he sprained his ancle, and was confined a fortnight to the house. The cook on her return, found all the linen she had left to dry by the fire, burned; and the dairy maid having ran off before she tied the cows, one of them broke the leg of a colt in the stable. The gardener's lost time was worth twenty crowns, valueing his pain at nothing; the linen burned, and the cloth spoiled, were worth as much more. Here is a loss of forty crowns and much pain, trouble, vexation, and inconvenience, for the want of a latch, which would cost three pence, and this loss, through careless neglect, falls on a family little able to support it."

PRACTICAL MEN.—The most important improvements in the arts and sciences have been made, not by the "regularly educated practical men," but by persons trained up to other pursuits. The greatest improvements in agriculture have been made by persons bred up in cities. The best laws are made by persons who are not practical lawyers. The same causes will perhaps, account for the circumstance so frequently observed, that whenever a man of superior mind arises, the last to be benefited by the exercise of his powers of invention will be the pursuit to which he was "regularly educated." Ramage the optician, who has rendered so important a service to science by improvement of reflecting telescopes, in which he has obtained equal power in half the size used by Herschell, made no improvement in tanning leather, his original occupation. It may be laid down as a general rule, that unless the mind of a practical man has been trained to habits of generalizing beyond the details of his profession, his conclusion as to the effects of any change in his practice is less to be relied upon than that of any other man of equal general intelligence, to whose mind the same facts are presented and who gives them an equal degree of consideration.

"You are a great goose," said a young lady to a patient and witty lover. "You're a little duck," was the reply.

PATENT AGENCY AND MECHANICAL ENGINEERING, *Office on F street, between 7th and 8th streets, opposite the Patent Office, Washington City, D. C.*—The subscriber has resigned his situation in the patent office (where he for some time superintended the restoration of patents destroyed by fire in 1836) to devote himself to the preparation of specifications and drawings, and all matters connected with the obtaining of patents for useful inventions either in this country or Europe. His experience in theoretical and practical mechanics, together with an intimate knowledge of the progress of the useful arts and manufactures, at home and abroad, will enable him to judge of the novelty and utility of inventions submitted to his examination; and as patents are not granted, under the existing patent laws, when the alleged inventions are wanting in novelty, or contravene the established laws of science, he will be able to furnish all the information necessary to avoid the expense of making application for patents which could not be granted.

Having established a foreign correspondence, he will be able to secure patents in Great Britain, France, and other parts of the continent, or furnish information, and prepare all the necessary papers for that purpose.

A model for a machine or apparatus, or specimens for a composition of matter, are required by law, before a patent can issue; by sending a model or specimens to the subscriber, with a short statement of the object of the invention, the necessary papers and drawings will be prepared and forwarded to the applicant for execution, thereby obviating the expenses consequent upon a journey to Washington, or delay in issuing the patent.

Being well acquainted with the patent laws of the United States, England and France, and the decisions of the courts in patent cases, he tenders his services where information is required in reference to infringements of patents, or defence against suits for infringement, such as compiling and arranging evidence, &c.

To individuals and companies wishing to procure drawings and estimates of machinery, or buildings, for manufactories, on the most modern and improved plans, or any other matter connected with mechanical engineering, he will furnish information; and, should it be required, will locate and superintend structures of this description.

Wishing to be generally useful to mechanics and inventors, he will attend to the sale of machinery and patent rights; this, being a place of resort from all parts of the Union, is perhaps the best location for such a purpose.

Papers relating to patents can be sent to the commissioner of patents, when voluminous, free of postage, and models sent to the collectors of the oprincipal ports, will also come free of expense, and the subscriber can be advised thereof by letter, which in all cases must be post paid. All applications for information relating to patents must be accompanied by a fee of five dollars; charges for other business transactions will be made according to their magnitude.

J. JAMES GREENOUGH.

Certificate of HON. H. L. ELLSWORTH, *Commissioner of Patents.*

PATENT OFFICE, NOV. 20TH, 1842.

Mr. *J. J. Greenough*, who has for some years been employed in the patent office, in a highly responsible situation, under the act of 1836, restoring the records, having to my regret tendered his resignation, I take great pleasure in recommending him as a gentleman worthy of confidence, and as being particularly qualified to take charge of any business requiring a knowledge of mechanical science, the progress of the arts, and patent improvements. Mr. Greenough is also well acquainted with the practice of this office.

HENRY L. ELLSWORTH.

REFERENCES.—Hon. S Prentiss, of *Vt.*, U. S. Senate; Hon. J. P. Kennedy, of *Md.*, U. S. House of Reps; Hon. John C. Clark, of *N. Y.*, U. S. House of Reps; Hon W. Cranch, *Chief Justice, D. C.*; J. W. Hand, Esq., *Chief Clerk, Patent Office*; C. M. Keeler, Esq., *Examiner, Patent Office.*

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